

OFFICE OF CONGRESSMAN EARL BLUMENAUER
APPROPRIATIONS REQUEST FORM
FISCAL YEAR 2011

Instructions

1. Please complete the entire form. **All fields are required.**
2. Please do not **bold**, underline, or *italicize* responses.
3. Request forms must be submitted as a Word document.
4. All completed request forms and any supplemental materials must be submitted via email to:
Appropriations.Blumenauer@mail.house.gov
5. Please do not send more than one request per email.
6. All completed request forms must be submitted no later than **Friday, February 26, 2010.**
7. If you do not receive an email confirming receipt of your request within 48 hours of submission, please contact Stephanie Cappa in Congressman Blumenauer's Washington, D.C. office at 202-225-4811.

PLEASE NOTE: All appropriations requests submitted to Congressman Blumenauer's office will be made public on his website, as required by the House Committee on Appropriations.

Project Details

1. **Project title:**
Treatment Of Battlefield Spinal Cord And Burn Injuries
2. **Organization name and address** (the recipient of the funds):
Oregon Medical Laser Center
9205 SW Barnes Road
Portland, OR 97225
3. **Contact information**
 - a. **Project's primary contact:** Kenton W. Gregory, M.D.
 - b. **Daytime telephone number/ mobile phone number:** 503-216-5210/503-201-2109
 - c. **Email Address:** kentongregory@msn.com
 - d. **Project location** (if different than organization's address):
4. **Please describe the requesting organization's main activities.**
The Oregon Medical Laser Center (OMLC) is one of the country's leading biomedical laser research facilities and the only center of its kind in the Pacific Northwest. The Center has a long history of association with the U.S. Army to develop technologies to aid our injured soldiers. Based at Providence St. Vincent Medical Center, OMLC produces biocompatible tissues for research in the repair and replacement of diseased and injured arteries and skin; researches and develops innovative uses for lasers to diagnose and treat heart attack, stroke and cancer; and has successfully developed a bandage that stops severe external bleeding. The center collaborates with Oregon State University, Portland State University and Oregon Health & Science University, as well as several commercial firms in many of its research endeavors

5. Is this organization a public, private non-profit, or private for-profit entity?

Private non-profit

6. From what federal agency and account are you requesting funds (Please be specific –e.g., Department of Housing and Urban Development, Economic Development Initiatives account)?

Department of Defense, Army RDT&E, line 30 (PE0603002A) “Medical Advanced Technology

7. Briefly describe the activity or project for which funding is requested (no more than 500 words).

Treatment of Paralyzing Spinal Cord Injuries

Acute spinal cord injury from battlefield explosions and other trauma usually results in total paralysis. Recent congressionally sponsored research related to battlefield extremity injury suggests that acute spinal cord injury, if treated as an acute neurosurgical emergency with a commonly performed surgery, can heal normally without paralysis.

Trauma to the spine usually is caused by hyperflexion of the spine causing a contusion or bruise to the spinal cord. Complete transection occurs rarely. The contusion and swelling of the cord within the bony spinal canal causes pressure that stops blood flow. This is the principal cause of spinal cord death and paralysis. In standard NIH models of spinal cord injury in animals, a laminectomy where the spinal cord is exposed within a three-hour window -- allowing the tissue to freely expand without compression and thus restore blood flow -- universally results in prevention of permanent paralysis. Tragically, current accepted treatment only manages spinal immobilization and delivers steroids that do nothing to restore the blood supply to the spinal cord.

Clinical trials are required to provide injured soldiers a decompressive laminectomy within 3 hours of injury. Medical officials at Walter Reed, and other Army medical centers as well as military and civilian surgical thought leaders, have all expressed enthusiasm for testing this concept.

Barriers to implementing this important new strategy in combat zones are primarily tactical, i.e. there are no MRI scanners available. Trials to demonstrate efficacy and safety must be undertaken in multi-center military and civilian settings. Animal studies to evaluate secondary adjunctive therapies such as local cooling or administration of anti-inflammatory drugs should be supported.

Skin Healing After Battlefield Burns

Severe burns are common causes of injury and disability in current military conflicts. Skin healing after burns produces inflexible collagen scars which result in disability particularly in burns of extremities where skin flexibility is required. Although the burned wound is covered, the soldier is left with severely limited mobility and the prospect of a lifetime of repeated surgeries to treat scar contracture.

Normal human skin is constructed of multiple matrix proteins. Elastin proteins, which are required for skin flexibility, are not produced by humans after the age of two and are not present in burn scars. Research by our Battlefield Surgical Research group, through prior congressional support, led to the discovery of the human elastin precursor protein that can be purified and polymerized into flexible elastic tissues.

Preliminary data indicates that human skin cells will incorporate elastin proteins into flexible skin matrices. Thus, the potential exists for burned skin to heal itself into a flexible and functional skin replacement. Elastin proteins can be delivered via inexpensive disposable ink jet printer technology.

Creation of normal flexible skin using natural human elastin proteins may dramatically improve the quality of life, reduce disability and increase the rate of return to active duty for the soldier after battlefield burns.

8. What is the purpose of the project? Why is it a valuable use of taxpayer funds? How will the project support efforts to improve the economy and create jobs in Oregon?

Funding is requested to launch clinical trials to test the efficacy and safety of a spinal laminectomy within a three-hour period after injury as a treatment for acute spinal injury and to explore adjunctive therapies including cooling, use of anti-inflammatory drugs and autologous cell therapies. Funding will also be dedicated to enhance production of human tropoelastin and for development of elastin deposition devices for clinical trials, animal and Phase 1 human clinical trials to treat severe burn injuries. These new paradigms for the treatment of spinal cord and burn injuries are desperately needed to improve outcomes for injured military personnel and civilians.

Burns and spinal cord injuries continue to plague our service men and women in combat in Iraq and Afghanistan. American citizens have no higher duty than to care for our wounded warriors and to do all we can to return them to normal lives. Success of these revolutionary approaches could reduce the long term cost of caring for wounded soldiers and similarly injured civilians.

As outlined in the response to question 5, it is anticipated that any funding received will be shared with other Oregon institutions with unique expertise to further this medical research. This supports numerous medical research positions throughout the state and helps maintain Oregon's prominence for medical research in the nation.

9. Has this project received federal appropriations funding in past fiscal years?

Yes

9a. If yes, please provide the fiscal year, Department, Account, and funding amount of any previous funding.

FY2010, Army RDT&E, Line 30 Medical Advanced Technology, \$360,000

Funding Details

10. Amount requested for this project: \$4,000,000

11. Breakdown/budget of the amount you are requesting for this project (e.g., salary \$40,000; computer \$3,000):

Personnel (Salary and Fringe)	\$1,020,000	
Research Studies	\$1,535,000	
Assorted Supporting Equipment	\$295,000	
Subtotal Direct Costs		\$2,850,000
Indirect Costs	\$1,150,000	
Total		\$4,000,000

12. What is the total cost of the project?

It is estimated that total project cost to bring these two efforts to conclusion will cost in the range of \$25 million to \$40 million. While the spinal cord project is anticipated to be relatively short term, the burn project could take considerably longer. Much of this funding will be raised privately.

13. Is this project scalable (i.e., If partial funding is awarded, will the organization still be able to use the funds in FY 2011?)?

Yes.

14. What other funding sources (local, regional, state) are contributing to this project or activity? (Please be specific about funding sources and funding amounts)

There is no local, regional or state funding available for this research. It is anticipated that considerable funding can be raised through private sources.

15. Please list public or private organizations that have supported/endorsed this project.

Oregon State University Engineering School
The Oregon Burn Center
US Army Institute for Surgical Research
Defense Advanced Research Projects Agency (DARPA)
Walter Reed Army Medical Center
Special Forces Medical Command, Fort Bragg

Please return this form no later than Friday, February 26, 2010 via email to:

Appropriations.Blumenauer@mail.house.gov

Washington, D.C. Appropriations Contact for Rep. Earl Blumenauer: Stephanie Cappa, 202-225-4811, Stephanie.Cappa@mail.house.gov

Oregon Appropriations Contact for Rep. Earl Blumenauer: Sarah Masterson, 503-231-2300, Sarah.Masterson@mail.house.gov